

OIL ANALYSIS REPORT



KATIE VOLVO PENTA 1013932220 - STARBOARD DIESEL ENGINE

Sample No: VPA051824
Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40

SAMPLE INFORMATION

Sample Number	VPA051824	VPA023250	VPA038783	VPA038827
Sample Date	25 Mar 2024	17 Jul 2023	03 Oct 2022	14 Apr 2022
Machine Hours	3177	2689	1980	1189
Oil Hours	0	500	687	1189
Oil Changed	Changed	Not Changd	Not Changd	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	SEVERE

NEWT MARINE
 5 JONES ST
 DUBUQUE, IA
 US 52001
 Contact: DON LEIK
 service@newtmarine.com
 T:
 F:

OIL CONDITION

Visc @ 100°C	cSt	▲ 11.0	▲ 11.6	▲ 11.3	▲ 10.3
Base Number (BN)	mg KOH/g	■ 8.6	■ 8.7	■ 10.1	■ 8.6
Oxidation (PA)	%	58	54	63	80

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	■ 0.2	■ 0.2	■ 0.2	■ 0.3
Nitration (PA)	%	58	48	63	86
Sulfation (PA)	%	54	51	59	63
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	▲ 7.0	▲ 6.2	▲ 6.1	▲ 12.3
Silicon	ppm	■ 4	■ 3	■ 5	■ 20
Sodium	ppm	■ 0	■ <1	■ <1	■ 4
Potassium	ppm	■ 4	■ 2	■ 7	■ 20

WEAR METALS

Iron	ppm	■ 11	■ 6	■ 13	■ 33
Copper	ppm	■ 6	■ 4	■ 28	▲ 165
Lead	ppm	■ <1	■ 0	■ <1	■ 1
Tin	ppm	■ 1	■ <1	■ 1	■ 2
Aluminum	ppm	■ 2	■ <1	■ 3	■ 7
Chromium	ppm	■ <1	■ 0	■ <1	■ <1
Molybdenum	ppm	■ 59	■ 55	■ 53	■ 51
Nickel	ppm	■ 0	■ 0	■ <1	■ 0
Titanium	ppm	■ <1	■ <1	■ 0	■ <1
Silver	ppm	■ 0	■ 0	■ 0	■ <1
Manganese	ppm	■ <1	■ <1	■ <1	■ 2
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	1036	1071	■ 1052	1031
Magnesium	ppm	891	988	■ 926	807
Zinc	ppm	■ 1143	■ 1258	■ 1139	■ 967
Phosphorus	ppm	■ 1024	■ 974	■ 951	■ 873
Barium	ppm	■ 2	■ 0	■ 0	■ 0
Boron	ppm	■ 2	■ 2	■ 8	8

Diagnosis

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Depot: VP99298099
Unique No: 11022891
Signed: Sean Felton
Report Date: 15 May 2024

OIL ANALYSIS REPORT

VOLVO PENTA

GRAPHS

